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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,926	08/08/2001	Amir Said	10018297-1	3679

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EXAMINER

FERRIS III, FRED O

ART UNIT	PAPER NUMBER
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2128

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/924,926	SAID, AMIR	
	Examiner	Art Unit	
	Fred Ferris	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 13-23 is/are rejected.
- 7) ☒ Claim(s) 6-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. *This Office Action is responsive to applicant's amendment filed 19 May 2006. Claims 1-23 are currently pending in this application. Claims 1-5, and 13-23 remain rejected. Claims 6-12 are objected to as being dependent from a rejected base claim.*

Response to Arguments

2. *Applicant's arguments filed 19 May 2006 have been fully considered.*

Regarding applicant's response to claim objections: *The examiner withdraws the objection to claims 3 and 15 in view of applicant's amendment to the claims and supporting arguments filed 19 April 2006.*

Regarding applicant's response to 103(a) rejection: *Applicant's arguments regarding the 103(a) rejection of claims 1-3, and 13-15, have been considered and found to be persuasive. The 103(a) rejection of claims 1-3, 13-15, as obvious in view of Fitzpatrick, Drocourt, and Henderson is therefor withdrawn. However, claim 23 remains rejected as obvious in view of Fitzpatrick and Drocourt for the following reasons:*

- 1) *Claim 23 does not recite the application of a "detection rule" as required by independent claims 1 and 13. In the case of claim 23, the recitation of "identifying **at least one** predominate color in a digital image" simply requires the identification of any number of predominate colors (e.g. one or more) in a digital image by any means. Since the claim does not require the actual detection of predominant color, applicant's arguments that Fitzpatrick's color detection is*

known in advance, is not relevant to claim 23. In this instance the prior art clearly "reads on" the subject matter as claimed.

2) Applicant's arguments that Droucourt is not analogous art are not persuasive. While Droucourt is indeed directed to counting microorganisms as noted by applicants, the operational portion of the apparatus includes analyzing digital samples (CL2-L14-15) as picture elements (pixels) along a stored scan line (CL11-L51-54), representing digital images contained in a disclosed PC system (Fig. 3-60) that includes DSP processing detecting color discrimination (CL11-L36). In this regard, the stored picture elements (pixels) and DSP processing detecting color discrimination of the prior art Droucourt are clearly structurally similar to the claimed invention and the therefor meet the MPEP 2141 requirement for qualifying prior art.

MPEP 2141 recites the following supporting rationale:

2141.01(a) [R-3] Analogous and Nonanalogous Art

I. < TO RELY ON A REFERENCE UNDER 35 U.S.C. 103, IT MUST BE ANALOGOUS PRIOR ART

The examiner must determine what is "analogous prior art" for the purpose of analyzing the obviousness of the subject matter at issue. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also In re Deminski, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992) ("A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem."); Wang Laboratories Inc. v. Toshiba Corp., 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993); and State Contracting & Eng'g Corp. v. Condotte America, Inc., 346 F.3d 1057, 1069, 68 USPQ2d 1481, 1490 (Fed. Cir. 2003) (where the general scope of a reference is outside the pertinent field of endeavor,

the reference may be considered analogous art if subject matter disclosed therein is relevant to the particular problem with which the inventor is involved)

For this reason the 103(a) rejection of claim 23 is maintained.

New 35 USC 101 rejections have now been applied to claims 1-5 and 13-22.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-5 and 13-22 are rejected under 35 U.S.C. 101 because the claimed invention is drawn to non-statutory subject matter.

Per independent claim 1: *The Examiner submits that, in view of the language of the claims, method claim 1 does not appear to recite a tangible result. In this case the result appears to merely be the application of a "detection rule" which consists of a mathematical construct. (specification: paragraphs 0035, 0036) The examiner submits that in order to establish a practical application, there must be either a physical transformation, or a useful, concrete and tangible result. Data transformation is not the same as a physical transformation. In this instance, there does not appear to be a tangible result. Here, the result of "applying a detection rule to randomly selected pixels" is simply a mathematical computation resulting in an un-stored and un-applied number, not a physical transformation. Applying a "detection rule", in this case, is a thought or computation, and not in and of itself a tangible result. It is not until the result is applied in a meaningful way that it has real world value and becomes a tangible result. For*

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example, there does not appear to be a tangible result that is specifically applied to achieve the intended "identifying at least one predominant color", as now recited in the language of the claim. The examiner submits that it is not until the detection rule is used to "create a color occurrence list", as recited in dependent claim 6, that the rule renders a tangible result. (i.e. tangible results stored in list)

MPEP 2106 recites the following supporting rationale:

"A. Identify and Understand Any Practical Application Asserted for the Invention
The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and **tangible result**." *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of **"real world" value**, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); *In re Ziegler*, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See *Arrhythmia*, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

Although the courts have yet to define the terms useful, concrete, and tangible in the context of the practical application requirement for purposes of these guidelines, the following examples illustrate claimed inventions that have a practical application because they produce useful, concrete, and tangible result:

- Claims drawn to a long-distance telephone billing process containing mathematical algorithms were held to be directed to patentable subject matter because "the claimed process applies the Boolean principle to produce a useful, concrete, **tangible result** without pre-empting other uses of the mathematical principle." *AT & T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358, 50 USPQ2d 1447, 1452 (Fed. Cir. 1999);
- "[T]ransformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces a useful, concrete and tangible result' -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601; and
- Claims drawn to a rasterizer for converting discrete waveform data samples into anti-

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aliased pixel illumination intensity data to be displayed on a display means were held to be directed to patentable subject matter since the claims defined "a specific machine to produce a useful, concrete, and tangible result." In re Alappat, 33 F.3d 1526, 1544, 31 USPQ2d 1545, 1557 (Fed. Cir. 1994).

*A process that consists solely of the manipulation of an abstract idea is not concrete or tangible. See In re Warmerdam, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). See also Schrader, 22 F.3d at 295, 30 USPQ2d at 1459. Office personnel have the burden to establish a prima facie case that the claimed invention as a whole is directed to solely an abstract idea or to manipulation of abstract ideas or does not produce a useful result. Only when the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. 101. Compare **Musgrave, 431 F.2d at 893, 167 USPQ at 289; In re Foster, 438 F.2d 1011, 1013, 169 USPQ 99, 101 (CCPA 1971)**. Further, when such a rejection is made, Office personnel must expressly state how the language of the claims has been interpreted to support the rejection."*

Dependent claims 2-5 inherit the defects of the claims from which they depend.

Regarding independent claim 13: The Examiner submits that claim 13, as written, is merely drawn to nonstatutory descriptive material since the claimed "apparatus" appears to consist only of software program elements (i.e. program per se) that are not employed as a computer component. In this instance, the claimed "apparatus" for "applying a detection rule", does not appear to specifically impart any functionality with necessary processing hardware. While a "processor" is in fact recited in the language of claim 13, the recited "detection rule" does not appear to actually be employed as a computer component. Further, the specification (Fig. 5, paragraphs 0035, 0036) does not appear to set forth that claimed "apparatus" consists of anything other than simply software elements. (Note: the language of paragraph 0038 is not included in claim 13)

MPEP 2106 recites the following supporting rational for this reasoning:

"Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New

IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data. Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se. Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized."

Dependent claims 13-22 inherit the defects of the claims from which they depend.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. ***Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,853,625 issued to Fitzpatrick et al in view of U.S. Patent 5,891,394 issued to Drocourt et al.***

Regarding independent claims 1, 13, and 23: Fitzpatrick teaches identifying at least one predominate color (CL7-L26-28) in a digital image (CL1-L34-35) inclusive of

applying a detection rule (CL4-L64-66) to randomly-selected pixels (CL4-L57-58, 64-66) in the image (CL6-L26). (Examiners note: Fitzpatrick teaches identifying both predominate and non-predominate colors (CL7-L27-26, Fig.4, Block 227) in the image.) Fitzpatrick further teaches the use of statistical analysis (CL5-L23) in the color detection process.

Fitzpatrick does not explicitly disclose reducing the probability of false-negative and false-positive results.

Drocourt specifically teaches minimizing the probability of obtaining false-positive and/or false-negative results (CL11-L58-63, Tab. II) and analyzing digital samples (CL2-L14-15) along a stored scan line (CL11-L51-54). (The examiner notes that while the scanned digital samples of Drocourt are derived from a scanning microscope, they nonetheless represent digital images contained in the disclosed PC system (Fig. 3-60) and include DSP processing detecting color discrimination (CL11-L36).

It would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to modify the teachings of Fitzpatrick relating to identifying predominate colors of randomly selected pixels within a digital image, with the teachings of Drocourt relating to minimizing the probability of obtaining false-positive and/or false-negative results, to realize the elements of the claimed invention. An obvious motivation exists since minimizing the probability of obtaining false-positive and/or false-negative results achieves optimal performance in minimizing the error criterion (See: A. Webb, 1.1.2, 1.3, 1.5.1). Accordingly, a skilled artisan tasked with realizing a method

and apparatus for identifying the predominate colors among sampled pixels in a digital image, and having access to the teachings of Fitzpatrick and Drocourt, would have knowingly modified the teachings of Fitzpatrick with the teachings of Drocourt (or visa versa) to realize the elements of the present invention.

Allowable Subject Matter

4. *Claims 1 and 13 now stand rejected under 35 USC 101 as noted above but would be considered for allowance if current issues related to the 101 rejections can be resolved. Claims 6-12 are objected to as being dependent from a rejected base claim.*

In particular, the prior art does not disclose the specific arrangement of elements of a method and apparatus relating to the probability of identifying a color having $r_c < r_a$ / $r_c > r_a$ as a predominant color, where r_c is number of pixels in a sample region having a specific color divided by the total number of pixels in the sample region, and r_a/r_d is an acceptable/desirable ratio and stored in a list as claimed.

Conclusion

5. *The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Careful consideration should be given prior to applicant's response to this Office Action.*

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"Statistical Pattern Recognition", A. Webb, Chapter 1, pp. 1-31, Oxford University Press, 1999 teaches statistical analysis in pattern recognition.

"Image Compression Using the Spatial-Orientation Tree", A. Said et al, IEEE 0-7803-1254-6/93, IEEE 1993 teaches lossy color image compression

"An Image Multiresolution representation for Lossless and Lossy Compression", A. Said et al, IEEE Transactions on Image Processing, Vol. 5, No. 9, September 1996 teaches lossy color image compression.

"A Genetic Approach to Color Image Compression", H. Feiel, ACM 0-89791-850-9, ACM 1997 teaches lossy color image compression.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 571-272-3778 and whose normal working hours are 8:30am to 5:00pm Monday to Friday. Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 571-272-3700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached at 571-272-2279. The Official Fax Number is: (571) 272 8300

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